Claims

1. An extendible flexible electrical conduit with conductors therein, comprising:

at least one spiral wound flexible casing;

a rigid telescoping section connected thereto and communicating therewith; and

a plurality of insulated electrical conductors extending through said at least one flexible casing and said telescoping section, the conductors being disposed in the telescoping section so as to allow them to extend and contract to accommodate extension and contraction of said telescoping section.

2. The combination according to claim 1, wherein said telescoping section comprises an inner and an outer tube, said tubes being slidably and coaxially disposed with respect to one another to permit the telescoping section to extend and contract and wherein said electrical conductors are helically disposed in the telescoping middle section..

3. The combination according to claim 2, wherein portions of said inner and outer tubes are non-circular, so as to limit rotation about their axis relative to one another.

4. The combination according to claim 3, wherein the outer tube is oval between its attachment end and its free end, and wherein the free end of the inner tube is oval, whereby the rotation of the inner tube with respect to the outer tube is limited to a preselected amount, while allowing the tubes to move longitudinally with respect to one another.

5. An extendible flexible electrical conduit with conductors therein, comprising:

first and second spiral wound flexible casings;

a rigid telescoping middle section connected between said first and second flexible casings and communicating therewith; and

a plurality of insulated electrical conductors extending through the first flexible casing, the telescoping middle section and the second flexible casing, the conductors being disposed in the telescoping middle section so as to allow

them to extend and contract to accommodate extension and contraction of said telescoping middle section.

6. The combination according to claim 5, wherein said telescoping middle section comprises an inner and an outer tube, said tubes being slidably and coaxially disposed with respect to one another to permit the telescoping middle section to extend and contract and wherein said electrical conductors are helically disposed in the telescoping middle section..

7. The combination according to claim 6, wherein portions of said inner and outer tubes are non-circular, so as to limit rotation about their axis relative to one another.

8. The combination according to claim 7, wherein the outer tube is oval between its attachment end and its free end, and wherein the free end of the inner tube is oval, whereby the rotation of the inner tube with respect to the outer tube is limited to a preselected amount, while allowing the tubes to move longitudinally with respect to one another.

9. An extendible flexible electrical conduit with conductors therein, comprising a rigid telescoping middle section;

said telescoping middle section having an inner tube with an attachment end and a free end;

said telescoping middle section having an outer tube with an attachment end and a free end;

said inner and outer tubes being slidably and coaxially disposed with respect to one another to permit the telescoping middle section to extend and contract;

a first spiral wound flexible casing attached to and communicating with the outer tube attachment end;

a second spiral wound flexible casing attached to and communicating with the inner tube attachment end; and

a plurality of insulated electrical conductors extending through the first

flexible casing, the telescoping middle section and the second flexible casing, the conductors being arranged to allow them to extend and contract to accommodate extension of said telescoping middle section.

10. The combination according to claim 9, and further including a bushing disposed between said free end of the outer tube and said inner tube.

11. The combination according to claim 9, wherein said electrical conductors have a first portion arranged to fit within the first spiral wound flexible casing, a second portion arranged to fit within the second spiral wound flexible casing and a central helically wound portion arranged to expand and contract within the telescoping middle section.

12. The combination according to claim 11, and further including a retaining ring encasing said plurality of conductors on either side of the central helically wound portion, said retaining rings being adapted to fit within the respective attachment ends of the inner and outer tubes to hold said plurality of conductors in place.

13. The combination according to claim 11, wherein said conductors are interleaved along said helically wound portion.

14. The combination according to claim 11, wherein said conductors are disposed within a sheath, said sheath being helically wound along said helically wound portion.

15. The combination according to claim 9, wherein the outer tube is oval between its attachment end and its free end, and wherein the free end of the inner tube is oval, whereby the rotation of the inner tube with respect to the outer tube is limited to a preselected amount, while allowing the tubes to move longitudinally with respect to one another.